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Typification of two natural hybrids in *Rumex* (Polygonaceae)

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Summary. *Rumex* ×*borbasii* Błocki, a natural hybrid between *R. confertus* Willd. and *R. obtusifolius* L., and *R.* ×*skofitzii* Błocki, a natural hybrid between *R. confertus* and *R. crispus* L., are lectotypified based on critical revision of herbarium material deposited in KRA, KRAM, LW and WA, forming part of the collections of Bronisław Błocki.

Key Words. herbarium, isolectotype, lectotype, protologue, taxonomy.

Introduction

The genus *Rumex* L. (Polygonaceae) comprises about 200 species distributed worldwide (Mosyakin 2005) and is known as one of the richest genera in natural hybrids, especially within the subgenus *Rumex* (Rechinger 1984; Daehler & Carino 2001). Moreover, there are also artificial hybrids of economic importance (Hujerová *et al.* 2013).

Rumex ×*borbasii* Błocki, a natural hybrid between *R. confertus* Willd. and *R. obtusifolius* L., and *R.* ×*skofitzii* Błocki, a natural hybrid between *R. confertus* and *R. crispus* L., were described from western Ukraine by Bronisław Błocki, a Polish botanist, and validly published in the late 19th century (Błocki 1888b, 1889). Both hybrids have been reported from several countries in northern, central and eastern Europe (Stace *et al.* 2015) and they occur usually with their parent species in anthropogenic habitats (Błocki 1888a, 1888b, 1892; Snogerup 2000; Stace *et al.* 2015).

Rumex ×*skofitzii* resembles *R. confertus* in size but has narrower stem leaves with crisped margins and lax panicles with lanceolate crisped bracts. Moreover, the mature tepals possess largely rounded tubercles similar to those of *R. crispus* and the tepal apex is less rounded than in *R. confertus* (Stace *et al.* 2015). *Rumex* ×*borbasii* has the wide basal and lower stem leaves similar to those of *R. confertus*, but they are thinner in texture and the midrib bears some indumentum abaxially resembling *R. obtusifolius*. The panicle of *R.* ×*borbasii* is lax with irregularly maturing tepals, however, the well-developed tepals are tubercled, broad with a subacute apex, and bear shortly toothed margins (Stace *et al.* 2015). The flowers of *R.* ×*skofitzii* and *R.* ×*borbasii* are irregular in maturing and appear sterile, however, some individuals of both hybrids produce a low number of seeds (Snogerup 2000; Stace *et al.* 2015). Interestingly, in countries where *R. confertus* is considered alien (e.g. Lithuania, Poland, Sweden, UK) its hybrids also should be treated as alien taxa, following the concept proposed by Pyšek *et al.* (2004), and a proper recognition of spontaneous hybrids between alien *R. confertus* and its native congeners is important to control their negative impacts.

Although the names of *Rumex* ×*skofitzii* and *R.* ×*borbasii* are adopted by other authors (Snogerup 2000; Stace *et al.* 2015), they have never been typified. Therefore, after critical revision of the original material, *R.* ×*skofitzii* and *R.* ×*borbasii* are lectotypified here.

Materials and Methods

Selection and designation of type specimens followed the rules set out in the *International Code of Nomenclature for Algae, Fungi, and Plants* (Turland *et al.* 2018). Original herbarium material of *Rumex* ×*skofitzii* and *R.* ×*borbasii* was critically revised in 2016 based on collections deposited in KRA, KRAM, LW and WA, and compared to data included in the protologues (Błocki 1888b, 1889). In addition, the resources on *JSTOR Global Plants* (https://plants.jstor.org) and *Virtual Herbaria* (http://www.herbarium.univie.ac.at) were also checked.

Typification

Rumex ×borbasii *Błocki* (1889: 155). Type: Ukraine, Holosko (Lviv), unknown date, *B. Błocki* s.n. (lectotype LW [LW00058082]!, selected here; isolectotype LW [LW00058081]!). Fig. 1.

NOTES. Originally, the hybrid involving *Rumex confertus* and *R. obtusifolius* was described under the name *R.* ×*kerneri* Błocki (Błocki 1888a). However, its name was changed when Błocki (1889) found out that the epithet had already been applied to another *Rumex* species by Borbás (1884), namely *R. kerneri* Borbás.

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Fig. 1. Lectotype of *Rumex* ×*borbasii* (*B. Błocki* s.n. LW [LW00058082]).

Fig. 2. Lectotype of *Rumex* ×*skofitzii* (*B. Błocki* s.n. LW [LW00058051]).

The name of *R.* ×*borbasii* was given by Błocki in honour of Vincze von Borbás, a Hungarian botanist. In the protologue of *R.* ×*borbasii* (Błocki 1888a, 1889), two localities near Lviv (i.e., Zamarstyniv and Holosko Velyke) were mentioned as loci classici. Nowadays, Zamarstyniv is one of the boroughs of the city of Lviv and Holosko Velyke is a suburb of Lviv (western Ukraine). The specimens proposed herein as lectotype and isolectotype were collected in Holosko (short version of the name of Holosko Velyke) and are the most informative original material available and they match Błocki's protologue.

Rumex ×skofitzii *Błocki* (1888b: 340). Type: Ukraine, Holosko (Lviv), unknown date, *B. Błocki* s.n. (lectotype LW [LW00058051]!, selected here; isolectotypes LW [LW00058050]!, KRAM [KRAM129323]!). Fig. 2.

NOTES. The name of *Rumex* ×*skofitzii* was given by Błocki to honour Alexander Skofitz, an Austrian botanist and pharmacist. In the protologue of *R.* ×*skofitzii*, Błocki (1888b) did not provide a detailed description of the locus classicus, indicating only that the hybrid was found near Lviv. In the present work, I decided to choose the type specimens collected by Błocki in Holosko, formerly a village situated near Lviv. Morphological characters of specimens selected here as lectotype and isolectotype of *R.* ×*skofitzii* are as described in the protologue.

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